DETAILED ACTION

1. Claims 1, 5, 6, 21-23, 26, 28-30, and 60-62 are all the pending for this application.

2. Claims 2-4, 7-13, 15, 16, 18-20, 24, and 25 are cancelled, Claims 1, 22, 23, 26, and 28 are amended and new Claims 60-62 are added by Examiner's Amendment as discussed below.

3. The examiner acknowledges the telephone interviews with Applicants on 1/29/10, 2/2/10, 2/5/10 and 2/19/10 in order to advance prosecution on the merits and to bring the claims into condition for allowance.

4. Claims 1, 5, 6, 21-23, 26, 28-30, and 60-62 are all the pending claims under examination.

Withdrawal of Rejections

Claim Rejections - 35 USC § 112, first paragraph

Enablement

5. The rejection of Claims 1-13, 21-26, and 28-30 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement is withdrawn.

The claims have been amended by Examiner's Amendment to recite that the apelin inhibitor is an antibody that binds the apelin protein of SEQ ID NO:4, and that with respect to inhibiting angiogenesis, the antibody targets/inhibits in vivo generation of a new blood vessel from an existing

blood vessel. The claims encompass in vivo and in vitro method applications. The CAM assay used in the working examples of the declaration and angiogenesis inhibition are art recognized models. Applicants have reduced to practice the methods using two commercially available antibodies, ab208 and ab210, and shown they inhibit endothelial cell proliferation in vitro and that ab208 inhibits new blood vessel formation in the CAM assay.

Written Description

6. The rejection of Claims 1-13, 21-26 and 28-30 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn.

The claims have been amended by Examiner's Amendment to recite that the apelin inhibitor is an antibody that binds the apelin protein of SEQ ID NO:4, and that with respect to inhibiting angiogenesis, the antibody targets/inhibits in vivo generation of a new blood vessel from an existing blood vessel. The claims encompass in vivo and in vitro method applications. The CAM assay used in the working examples of the declaration and angiogenesis inhibition are art recognized models. Applicants have reduced to practice the methods using two commercially available antibodies, ab208 and ab210, and shown they inhibit endothelial cell proliferation in vitro and that ab208 inhibits new blood vessel formation in the CAM assay.

Double Patenting

7. The provisional rejection of Claims 1-13, 21-26 and 28-30 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 and 19 of copending Application No. 11/333830 (US 20060159676) is withdrawn in view of the abandonment of the '830 application on 12/18/09.

EXAMINER'S AMENDMENT

8. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with William Warren on 2/25/10.

The application has been amended as follows:

Claim 1 (Currently Amended) A method of inhibiting angiogenesis in a ~~biological sample~~ patient in need thereof, comprising

~~a. providing a biological sample; and~~

~~b. combining the biological sample with~~ administering to the patient an angiogenesis-inhibiting amount of a composition comprising ~~an inhibitor of apelin activity~~ an anti-apelin antibody or fragment thereof that binds apelin polypeptide of SEQ ID NO:4 and inhibits angiogenesis, wherein the angiogenesis is characterized by in vivo generation of a new blood vessel from an existing blood vessel.

Claims 2-4, 7-13, 15, 16, and 18-20 are cancelled.

Claim 22 (Currently Amended) The method of Claim 1, wherein the ~~biological sample is a mammalian biological sample~~ patient is a mammal.

Claim 23 (Currently Amended) The method of Claim l, wherein the ~~biological sample is a human biological sample~~ patient is a human.

Claims 24 and 25 are cancelled.

Claim 26 (Currently Amended) The method of Claim ~~24~~ 1, wherein the patient has a disease or condition involving angiogenesis.

Claim 28 (Currently Amended) The method of Claim ~~24~~ 26, further comprising ~~c.~~ administering to the patient a therapeutically effective amount of an anti-cancer agent, wherein the anti-cancer agent is selected from the group consisting of a chemotherapeutic agent, a radiotherapeutic agent, an anti-angiogenic agent, and an apoptosis-inducing agent.

Claim 60 (New) A method of inhibiting angiogenesis in a biological sample comprising contacting the biological sample with an angiogenesis-inhibiting amount of a composition comprising an anti-apelin antibody or fragment thereof that binds the apelin polypeptide of SEQ ID NO:4 and inhibits angiogenesis, wherein the angiogenesis is characterized by in vivo generation of a new blood vessel from an existing blood vessel.

Claim 61 (New) The method of Claim 60, wherein the biological sample is a mammalian biological sample.

Claim 62 (New) The method of Claim 62, wherein the biological sample is a human biological sample.

Examiner's Note

9. The examiner has identified a post-filing date reference (St. Croix et al. (US 20100028256; filed 6/28/07)) that teaches and claims methods for administering a binding agent against apelin in order to inhibit angiogenesis where a binding agent comprises an antibody. The reference is considered relevant to the claims but is not relied upon as prior art.

Conclusion

10. Claims 1, 5, 6, 21-23, 26, 28-30 and 60-62 are allowed.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynn Bristol whose telephone number is 571-272-6883. The examiner can normally be reached on 8:00-4:00, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms can be reached on 571-272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lynn Bristol/
Primary Examiner, Art Unit 1643